

C&DH

CAUTION
ALARM

Caution (1)
UB Orb N1-1
Bus Failure

Advisory (1) (2)
UB EPS N1-14
Bus Failure

UB EPS N1-23
Bus Failure

CB GNC N1-1 Bus
Failure

CB GNC N1-2 Bus
Failure

LB Sys Lab-1 Bus
Failure

LB Sys Lab-2 Bus
Failure

Nominal Config:

Comm via Early
COMM or OIU

N1-2 State = Prim

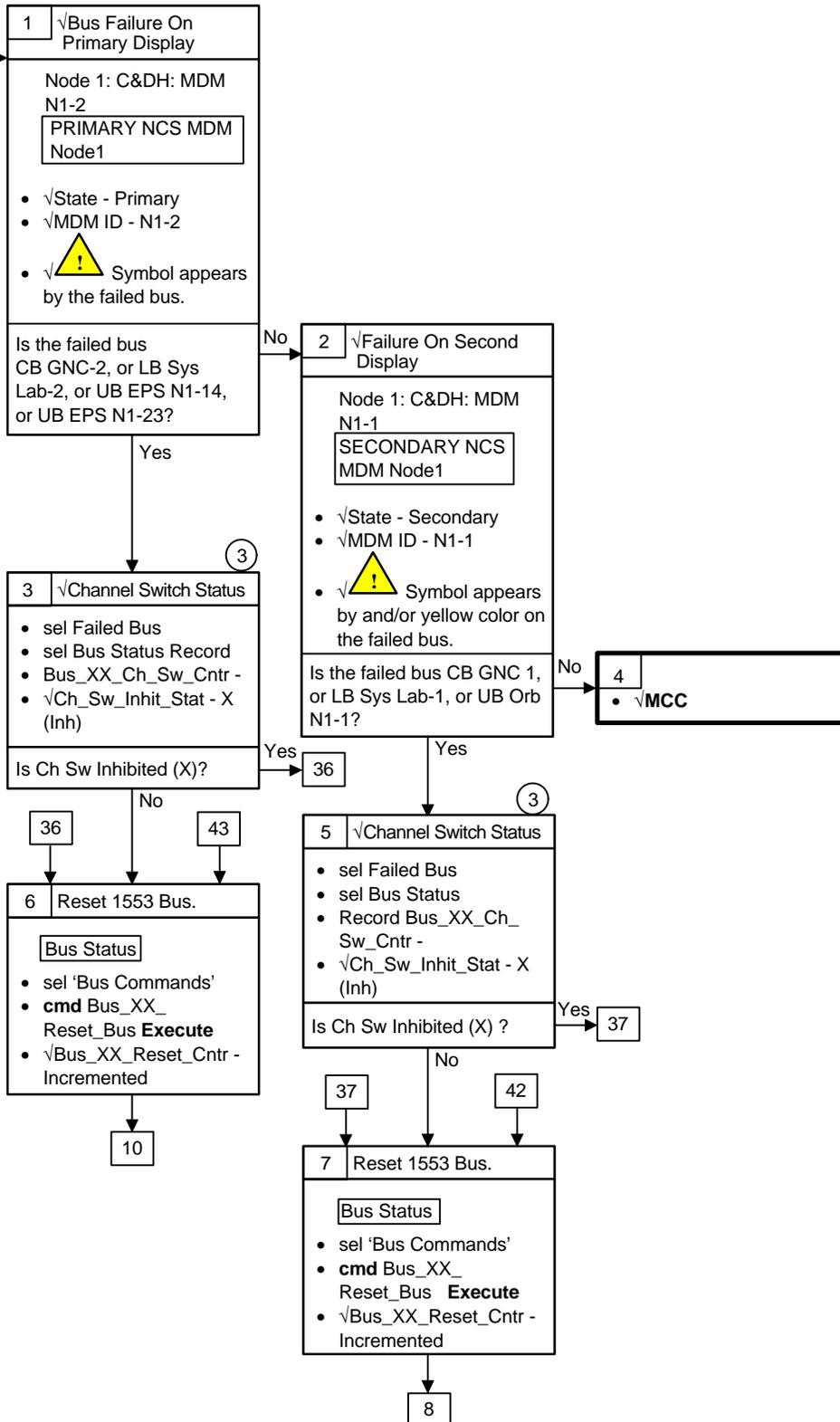
N1-1 State = Second

Active TIm Sink =
FGB

Auto Retry = Ena

Bus FDIR = Ena

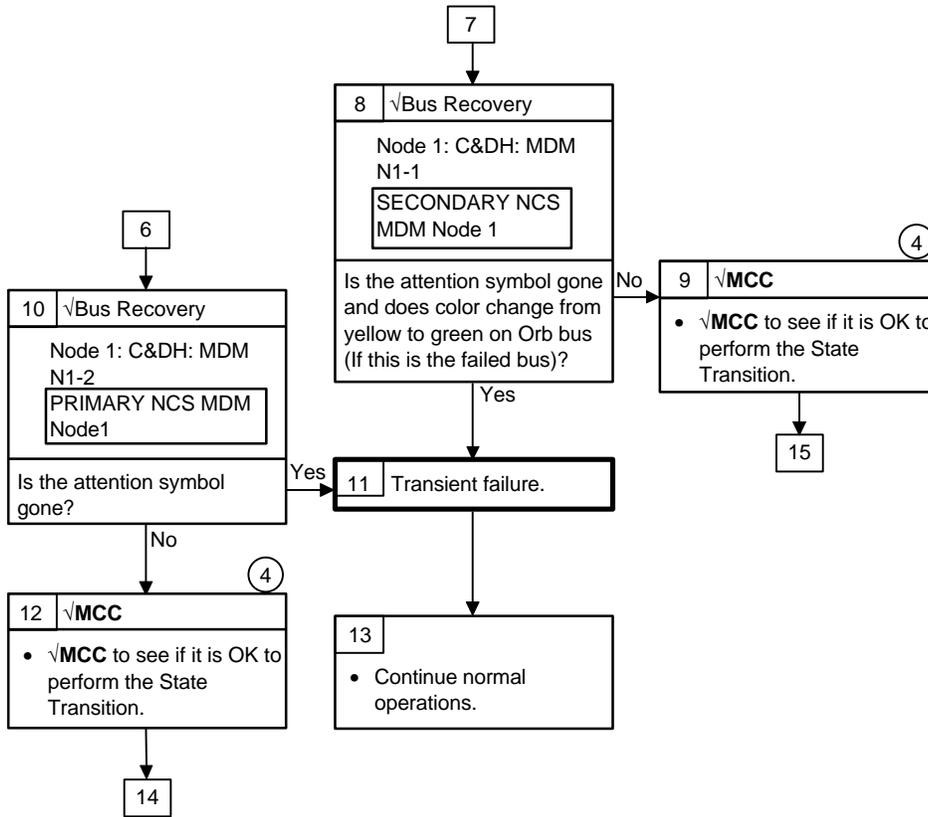
3A 1553 BUS FAILURE



(1) UB Orb_N1-1 is the only bus that generates this caution message. However, this bus only has a few RTs on it: OIU 1 and 2 (not always present), 4 CBMs (usually off), and FGB 1 and 2 (only one is active on the Primary MDM). So, most of the time, there is no I/O on the bus; hence, there is no caution message generated (no bus failure). In addition, there are cases with only one RT on the bus. In these cases, the failure of the RT itself will also cause the bus to fail. Only the caution and warning messages generate the yellow color on the failed bus.

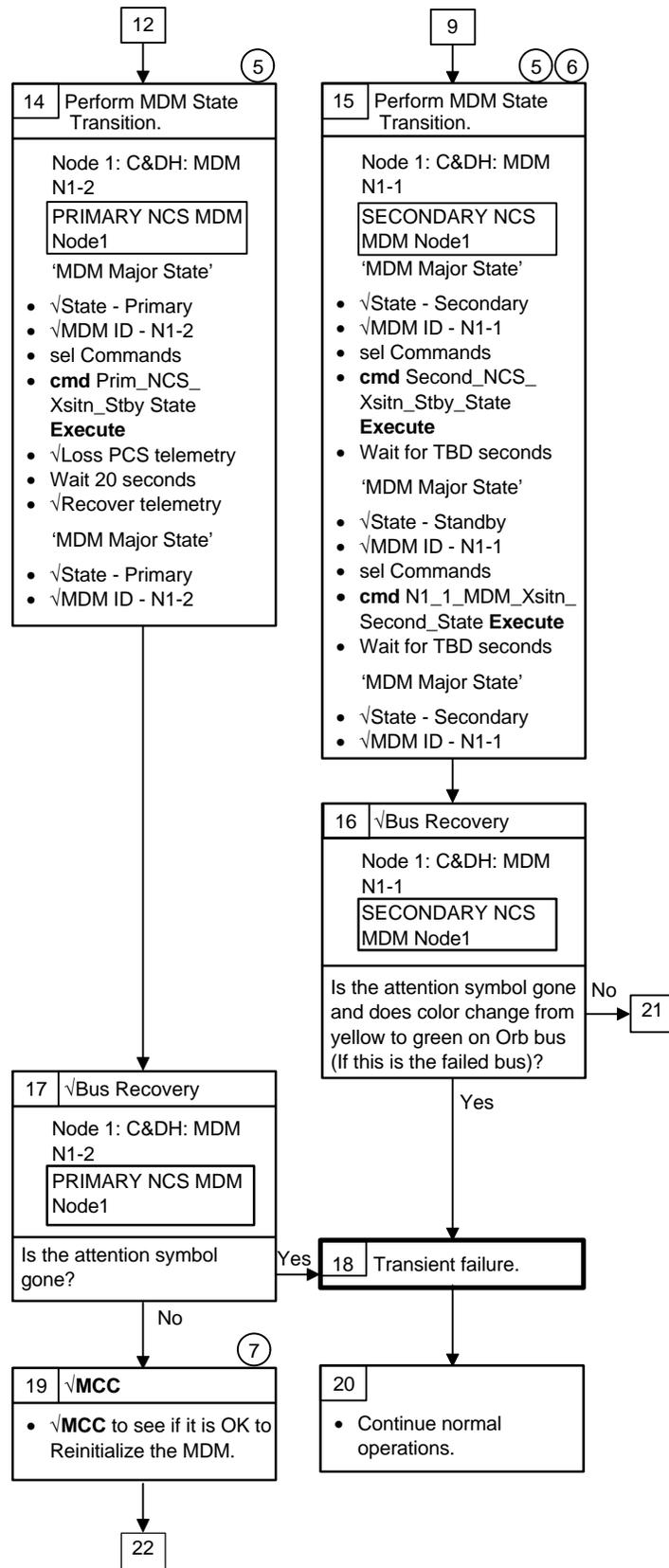
(2) GNC-2 bus has only two RTs on it: N1-1 MDM and a CBM (usually off). GNC-1 only has one CBM (usually off).

(3) 'Bus_XX_' is the Ops name of the actual failed bus (e.g. CB GNC_2). The 'Bus_XX_', nevertheless, has to be one of the buses in the block preceding this block (1 or 2).



(4) MDM state transition will affect all other space station subsystems connected to that MDM. Make sure that all other disciplines agree with the execution of this step.

3A 1553 BUS FAILURE (Cont)

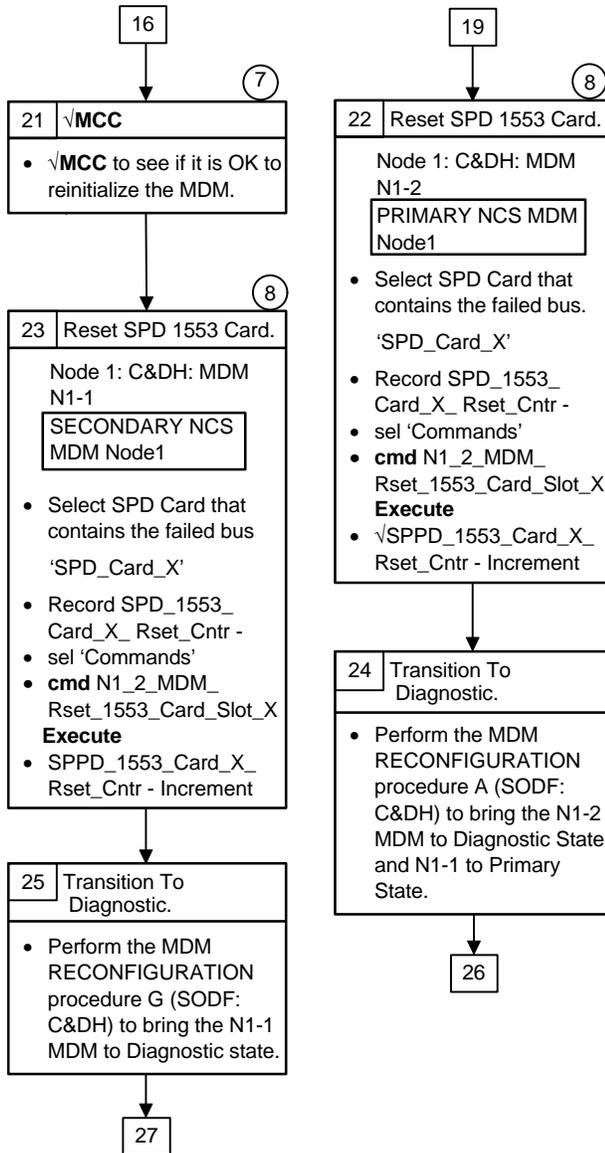


5 Transitioning the MDM from one state to another will reset the bus configuration and may fix the failure. The steps in this box are not the same as those in the MDM Reconfiguration procedure where we put the MDM in new state permanently. The N1-2 MDM will not stay in the new state permanently here. It will go back to Primary state after 20 seconds in standby automatically.

6 N1-1 MDM will not go back to Secondary state automatically. It has to be commanded.

7 Reinitializing the MDM will affect the operation of the entire MDM which will affect all other subsystems. Make sure that all other disciplines agree with the execution of this step. PCS connected to N1-1 is required.

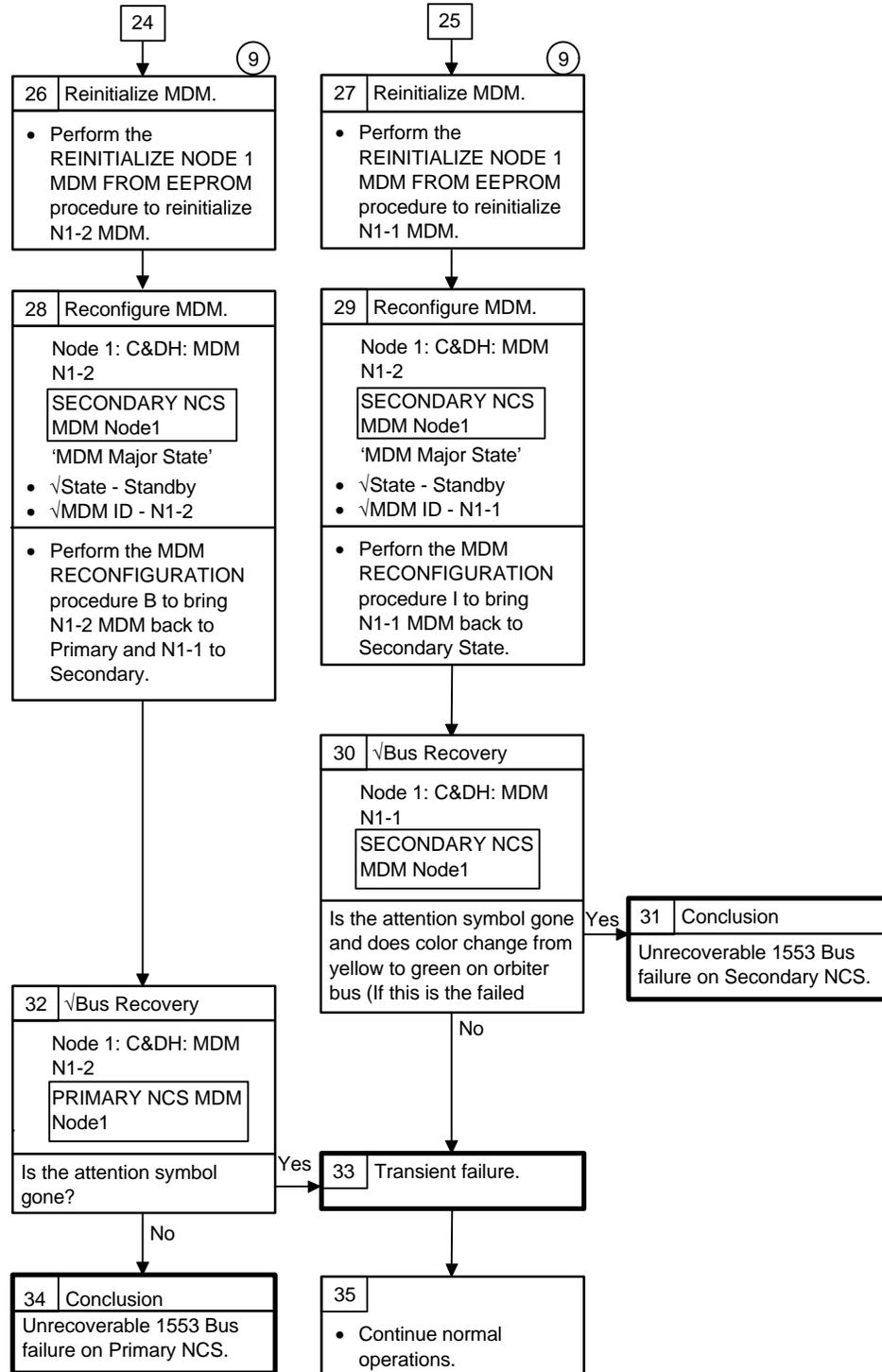
3A 1553 BUS FAILURE (Cont)



(7) Reinitializing the MDM will affect the operation of the entire MDM which will affect all other subsystems. Make sure that all other disciplines agree with the execution of this step. PCS connected to N1-1 is required.

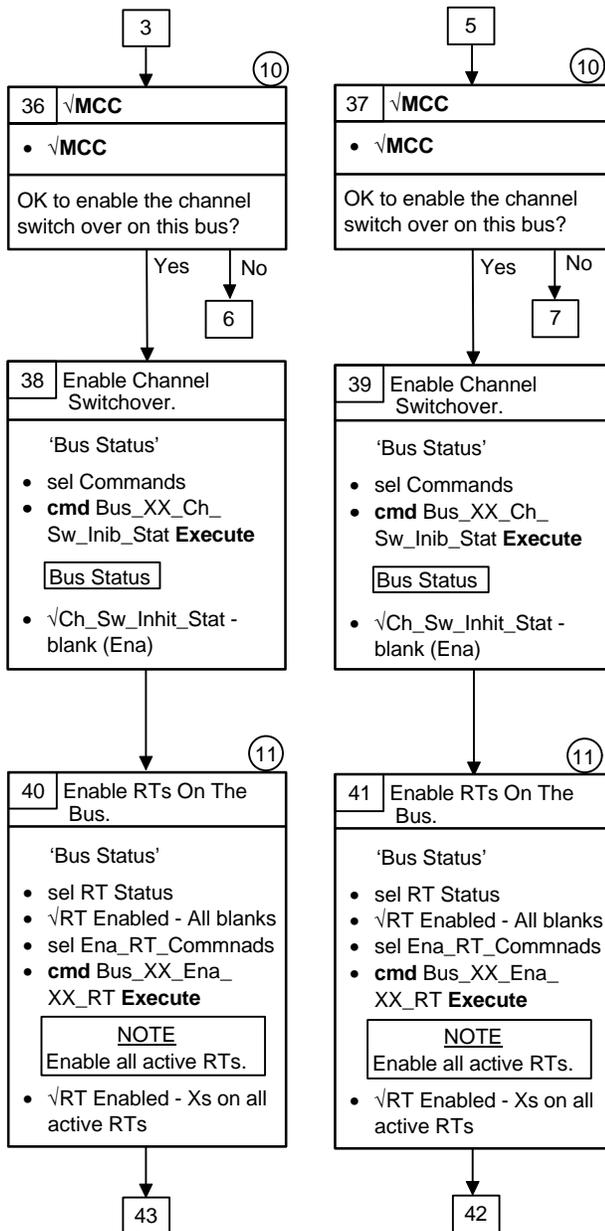
(8) Resetting the SPD 1553 Card will not reestablish I/O on the buses. So, resetting the SPD Card and reinitializing the MDM is actually one single action in the attempt to recover the bus failure.
 X = 0 for SPD 0.
 X = 1 for SPD 1.

3A 1553 BUS FAILURE (Cont)



9 Reinitializing the MDM from EEPROM will clear the station old configuration.

3A 1553 BUS FAILURE (Cont)



⑩ The Auto switchover must has been inhibited for a reason. It is necessary to make sure that there are no critical functions being performed on the other channel that may be hazardous if enabled.

⑪ Before the bus is declared fail, every single RT on the bus has to fail. The RTs on the failed bus are disabled prior to setting the bus failure flag bit. The RTs will have to be re-enabled to be able to see if the bus works on the other channel. Use the RT # to RT Ops Names Matrix to enable the active RTs on this bus.

